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09/879,438	06/12/2001	Michael Miettinen	442-010339-US(PAR)	3541

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EXAMINER

THAI, CUONG T

ART UNIT

PAPER NUMBER

2173

DATE MAILED: 01/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/879,438

Applicant(s)

MIETTINEN ET AL.

Examiner

CUONG T THAI

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☒ Claim(s) 1,4,8,9,11 and 15 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

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PART III. DETAILED ACTION

1. Claims 1-16 are presented for examination.
2. The IDS filed on June/12/2001 have been received and fully considered.

Claim Objections

3. Claim 9 is objected to because of minor informality, it is suggested that applicants replace “ A device according to claim 9” by “ A device according to claim 8” because claim 9 is a dependent claim and it can not depend on itself. Correction is required.
4. Claims 1, 4, 8, 11, and 15 are objected to minor informalities. Claim 1, lines 1, 10, 12; claim 4, line 2; claim 8, lines 1, 9, 11; claim 11, lines 2, 3; claim 15, line 2 are objected to spelling error, it is suggested that applicants replace “recognizing” by “recognizing”.

Abstract Objections

5. The abstract is objected to because of minor informality of inadvert “Figure 1”.
Correction is required.

Claim Rejections - 35 USC § 102

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002

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do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

6. Claim 1-15 are rejected under 35 U.S.C. 102 (e) as being anticipated by applicant submitted IDS issued to 1999 IEEE Shadow Gestures: 3D Hand Pose Estimation using a Single Camera.

As per claims 1 (method) and 8 (device), Shadow Gesture discloses a method for recognizing a selection a set of at least two alternatives as the technique of moving the thumb and the index finger (see page 484, right col., lines 1-2), the method comprising:

Determining the positions corresponding to each alternative in the space surround a user on the basis of their distance and direction with respect to the user so that the locations of the positions remain substantially the same with respect to user irrespective of the location of the user is taught by Shadow Gesture as the technique of a light source to cast the shadow of a hand and use a single camera to image both the hand and its shadow. Features derived from projections of the hand and the shadow are then used to compute 3D position and orientation (see page 479, right col., lines 17-21) and the geometry of the shadow formation calculation (see page 483, left col., line 23 to right col., line 39 and see Fig. 7);

Allowing the user to carry out a first movement for moving a member of the body to a position corresponding to an alternative the user desires is taught by Shadow Gesture as the technique of user controls the robot arm by moving the thumb (see page 484, right col., line 1);

Recognizing a second movement carried out by the user in the position corresponding to the alternative the user desires is taught by Shadow Gesture as the technique of user controls the robot arm by moving the thumb and the index finger (see page 484, right col., lines 1-2);

In response to the second movement, recognizing the selection the user desires as completed is taught by Shadow Gesture as the technique of selecting simple primates from a menu and manipulating them (see page 484, left col., lines 50-51 and see Fig. 8);

Providing the recognizing selection as an output is taught by Shadow Gesture as 3D Scene in Fig. 8.

These claims are therefore rejected for the reasons as set forth above.

As per claims 2 (method) and 9 (device), the limitation of displaying the user at least once the positions corresponding to the alternatives as virtual images is taught by Shadow Gesture as the technique of virtual fly-thru's over terrains (see page 484, right col., lines 7-8 and see Fig. 9). These claims are therefore rejected for the reasons as set forth above.

As per claims 3 (method) and 10 (device), the limitation of the alternative indicated at any given time is taught by Shadow Gesture as the technique of real-time gesture recognition and hand tracking system that can be used as input interface to applications that require multi dimensional control (see page 479, left col., lines 26-29). These claims are therefore rejected for the reasons as set forth above.

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As per claims 4 (method) and 11 (device), the limitation of recognizing the second movement contactlessly is taught by Shadow Gesture as the technique of virtual fly-thru's over terrains (see page 484, right col., lines 7-8 and see Fig. 9). These claims are therefore rejected for the reasons as set forth above.

As per claims 5 (method) and 12 (device), the limitation of wherein the first movement is the movement of the user's hand is taught by Shadow Gesture as the technique of user controls the robot arm by moving the thumb and the index finger (see page 484, right col., lines 1-2). These claims are therefore rejected for the reasons as set forth above.

As per claim 6 (method), the limitation of carry out the first function to the output is taught by Shadow Gesture as the technique of controlling robot arm by moving the thumb (see page 484, right col., lines 1-2 and see 3D Scene in Fig. 8).

This claim is therefore rejected for the reasons as set forth above.

As per claim 13 (device), the limitation of carrying out a first function in response to the second movement is taught by Shadow Gesture as the technique of controlling robot arm by moving the thumb and index finger (see page 484, right col., lines 1-2 and see 3D Scene in Fig. 8).

This claim is therefore rejected for the reasons as set forth above.

As per claims 7 (method) and 14 (device), the limitation of allowing the user to carry out certain second activity with a specific third movement of the member of the body is taught by Shadow Gesture as the technique of an interface to 3D video games where users can navigate by finger-pointing. Th user can also fire guns using the “click” gesture and open doors with the “reach” gesture (see page 484, right col., line 12 to page 485, left col., line 2). These claims are therefore rejected for the reason as set forth above.

As per claim 15, the limitation of the second movement carried out by the user in the position are adapted to be attached to the user is taught by Shadow Gesture as the technique of user controls the robot arm by moving the thumb and the index finger (see page 484, right col., lines 1-2) for selecting simple primates from a menu and manipulating them (see page 484, left col., lines 50-51) of 3D video games (see page 484, right col., line 13). This claim is therefore rejected for the reason as set forth above.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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8. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over in view of applicant submitted IDS issued to 1999 IEEE Shadow Gestures: 3D Hand Pose Estimation using a Single Camera in view of Kumar et al. (USPN: 6,624,833) hereinafter Kumar.

As per claim 16, Shadow Gesture discloses the invention substantially as claimed above. Shadow Gesture, however, does not disclose the limitation of wherein the device comprises at least one of the following: mobile station, a computer, a television apparatus, a data network browsing device, an electronic book, and an at least partly electronically controlled vehicle.

Kumar discloses the limitation of wherein the device comprises a computer as the technique of computer system 12 (see col. 5, line 32)

It would have obvious to one having ordinary skill in the art at the time the invention was made to include Kumar's teaching of computer system into that of shadow Gesture' invention. By doing so, the system would be enhanced by capable of allowing user to select alternative choice and perform some functional tasks on virtual environment.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Applicant is required under 37 C.F.R. 1.111(c) to consider these references fully when responding to this action. The documents cited therein teach a method for allowing user to select menu choice based on gesture recognition and perform some desire tasks based on user's desired manner.

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10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to CUONG T THAI whose telephone number is (703) 308-7234.

The examiner can normally be reached on 8:00 am - 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John W. Cabeca, can be reached at (703) 308-3116.

The fax numbers for the organization where this application or proceeding is assigned are as follows:

(703) 746-7238 (After Final Communication)

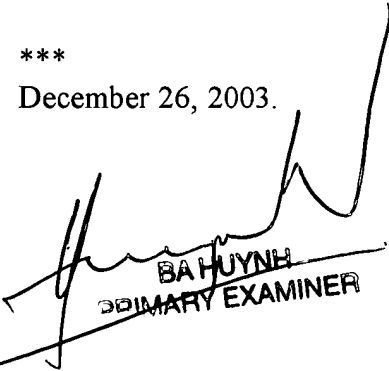
(703) 872-9306 (Official Communication)

(703) 746-7240 (For status inquiries, Draft Communication).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-8000.

CUONG T THAI
Examiner
Art Unit 2173

December 26, 2003.


BA HUYNH
PRIMARY EXAMINER